

**Abstract**

A memory metal expands through the use of a catalyst and a fuel-oxidizer mixture. The catalyst can be placed directly onto the surface of the memory metal, or it 5 can just be in the proximity of the metal. The fuel-oxidizer mixture similarly can be placed on the surface of the metal or just near the metal. The oxidation of the fuel can be initiated by a spark, heat, or some other source, and the heat from the exothermic reaction raises the temperature of and causes the expansion of the memory metal.